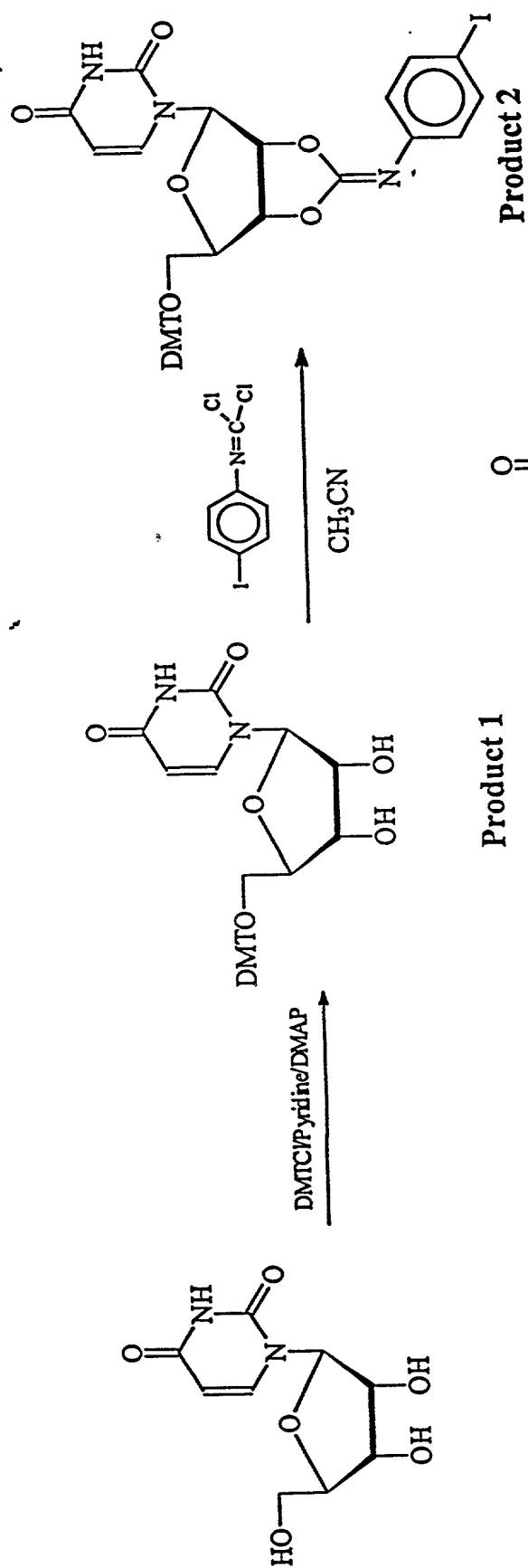


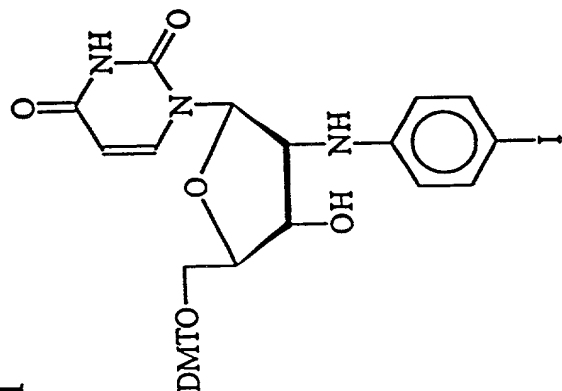
981513
 981514
 981515
 981516
 981517
 981518
 981519
 981520
 981521
 981522
 981523
 981524
 981525
 981526
 981527
 981528
 981529
 981530
 981531
 981532
 981533
 981534
 981535
 981536
 981537
 981538
 981539
 981540
 981541
 981542
 981543
 981544
 981545
 981546
 981547
 981548
 981549
 981550
 981551
 981552
 981553
 981554
 981555
 981556
 981557
 981558
 981559
 981560
 981561
 981562
 981563
 981564
 981565
 981566
 981567
 981568
 981569
 981570
 981571
 981572
 981573
 981574
 981575
 981576
 981577
 981578
 981579
 981580
 981581
 981582
 981583
 981584
 981585
 981586
 981587
 981588
 981589
 981590
 981591
 981592
 981593
 981594
 981595
 981596
 981597
 981598
 981599
 981600
 981601
 981602
 981603
 981604
 981605
 981606
 981607
 981608
 981609
 981610
 981611
 981612
 981613
 981614
 981615
 981616
 981617
 981618
 981619
 981620
 981621
 981622
 981623
 981624
 981625
 981626
 981627
 981628
 981629
 981630
 981631
 981632
 981633
 981634
 981635
 981636
 981637
 981638
 981639
 981640
 981641
 981642
 981643
 981644
 981645
 981646
 981647
 981648
 981649
 981650
 981651
 981652
 981653
 981654
 981655
 981656
 981657
 981658
 981659
 981660
 981661
 981662
 981663
 981664
 981665
 981666
 981667
 981668
 981669
 981670
 981671
 981672
 981673
 981674
 981675
 981676
 981677
 981678
 981679
 981680
 981681
 981682
 981683
 981684
 981685
 981686
 981687
 981688
 981689
 981690
 981691
 981692
 981693
 981694
 981695
 981696
 981697
 981698
 981699
 981700
 981701
 981702
 981703
 981704
 981705
 981706
 981707
 981708
 981709
 981710
 981711
 981712
 981713
 981714
 981715
 981716
 981717
 981718
 981719
 981720
 981721
 981722
 981723
 981724
 981725
 981726
 981727
 981728
 981729
 981730
 981731
 981732
 981733
 981734
 981735
 981736
 981737
 981738
 981739
 981740
 981741
 981742
 981743
 981744
 981745
 981746
 981747
 981748
 981749
 981750
 981751
 981752
 981753
 981754
 981755
 981756
 981757
 981758
 981759
 981760
 981761
 981762
 981763
 981764
 981765
 981766
 981767
 981768
 981769
 981770
 981771
 981772
 981773
 981774
 981775
 981776
 981777
 981778
 981779
 981780
 981781
 981782
 981783
 981784
 981785
 981786
 981787
 981788
 981789
 981790
 981791
 981792
 981793
 981794
 981795
 981796
 981797
 981798
 981799
 981800
 981801
 981802
 981803
 981804
 981805
 981806
 981807
 981808
 981809
 981810
 981811
 981812
 981813
 981814
 981815
 981816
 981817
 981818
 981819
 981820
 981821
 981822
 981823
 981824
 981825
 981826
 981827
 981828
 981829
 981830
 981831
 981832
 981833
 981834
 981835
 981836
 981837
 981838
 981839
 981840
 981841
 981842
 981843
 981844
 981845
 981846
 981847
 981848
 981849
 981850
 981851
 981852
 981853
 981854
 981855
 981856
 981857
 981858
 981859
 981860
 981861
 981862
 981863
 981864
 981865
 981866
 981867
 981868
 981869
 981870
 981871
 981872
 981873
 981874
 981875
 981876
 981877
 981878
 981879
 981880
 981881
 981882
 981883
 981884



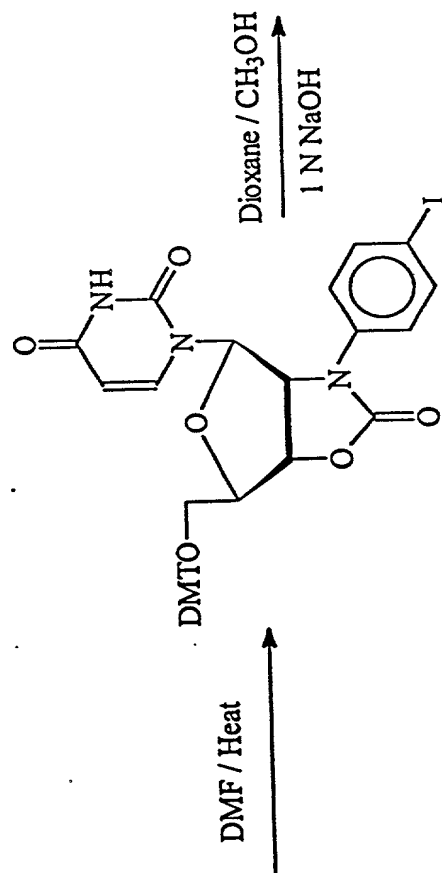
Synthesis Scheme of 2'-Arylamino-2'-Deoxy-Uridine



Product 1



Product 4



Product 3

FIGURE 2

Synthesis Scheme of Base-Modified Uridine-Wire Succinate

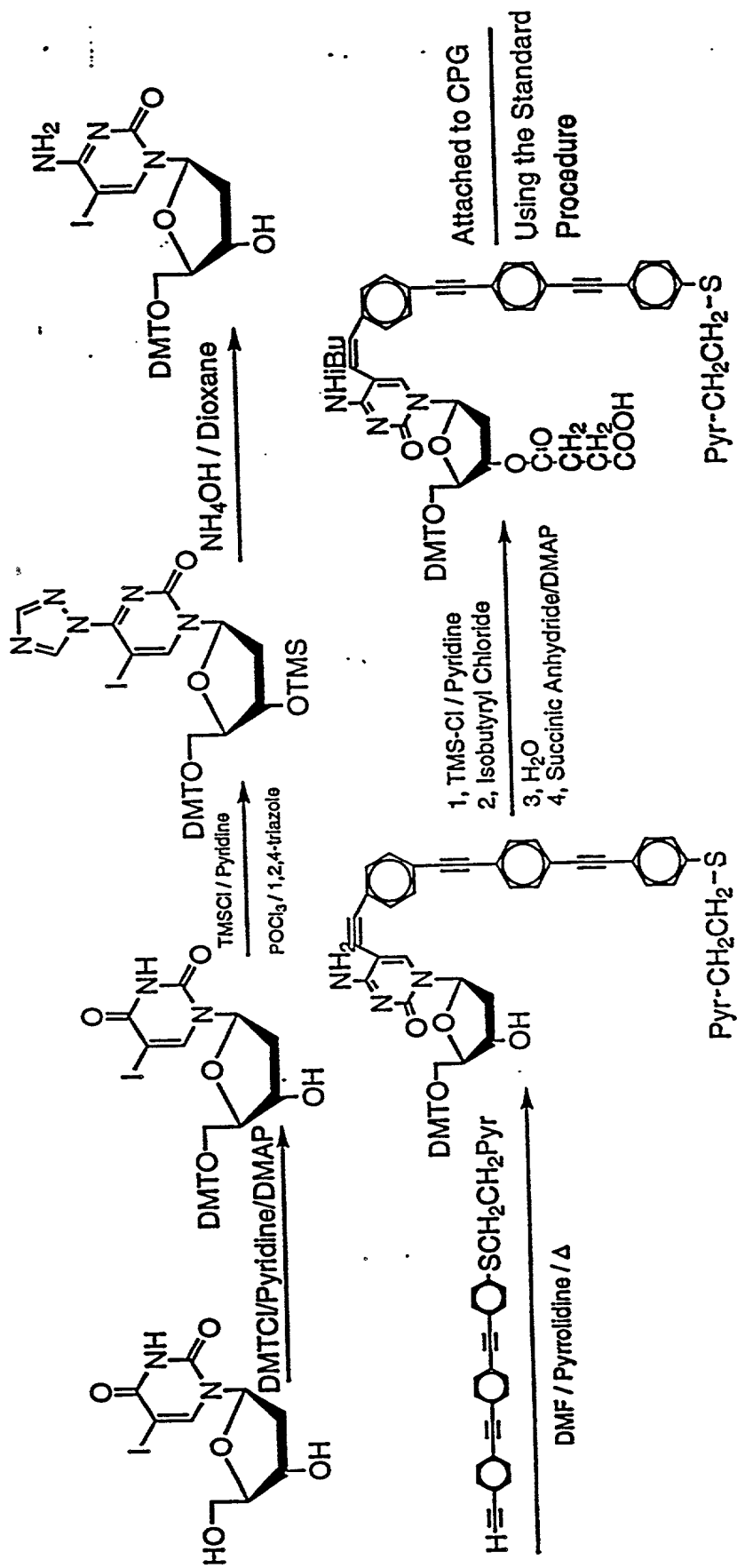
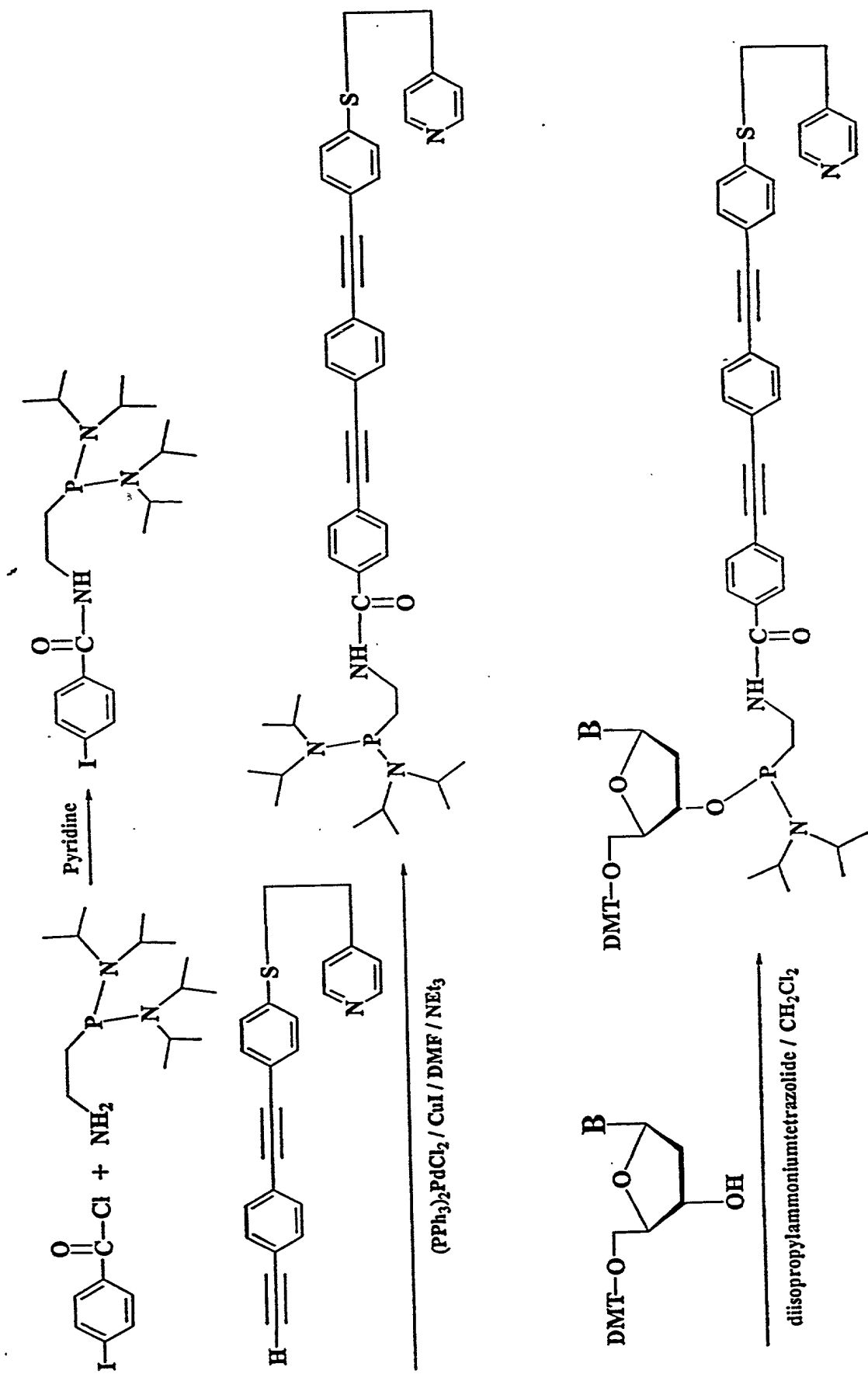


FIGURE 3

FIGURE 5



Synthesis Scheme of Substituted Three-Unit Wire

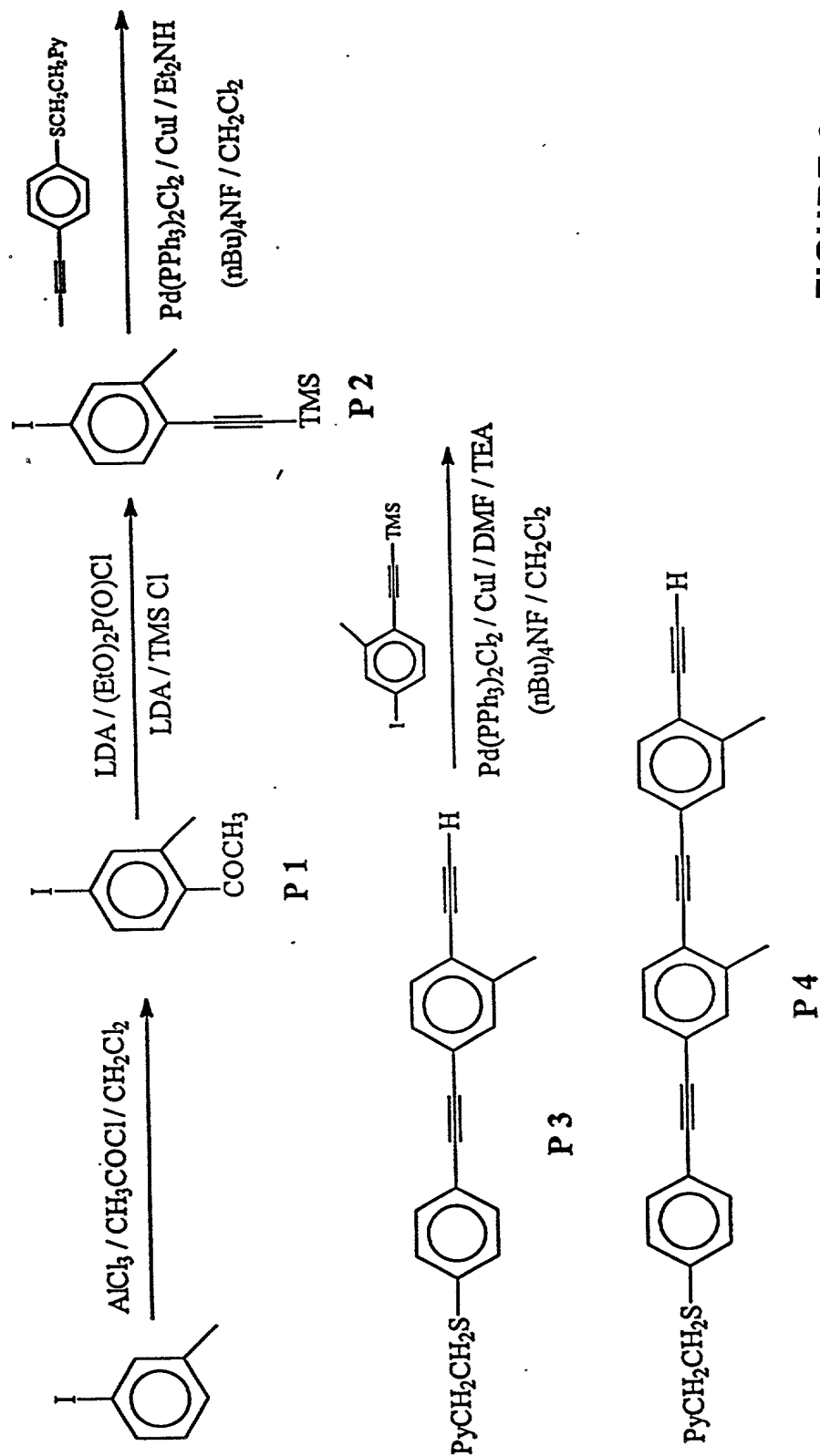


FIGURE 6

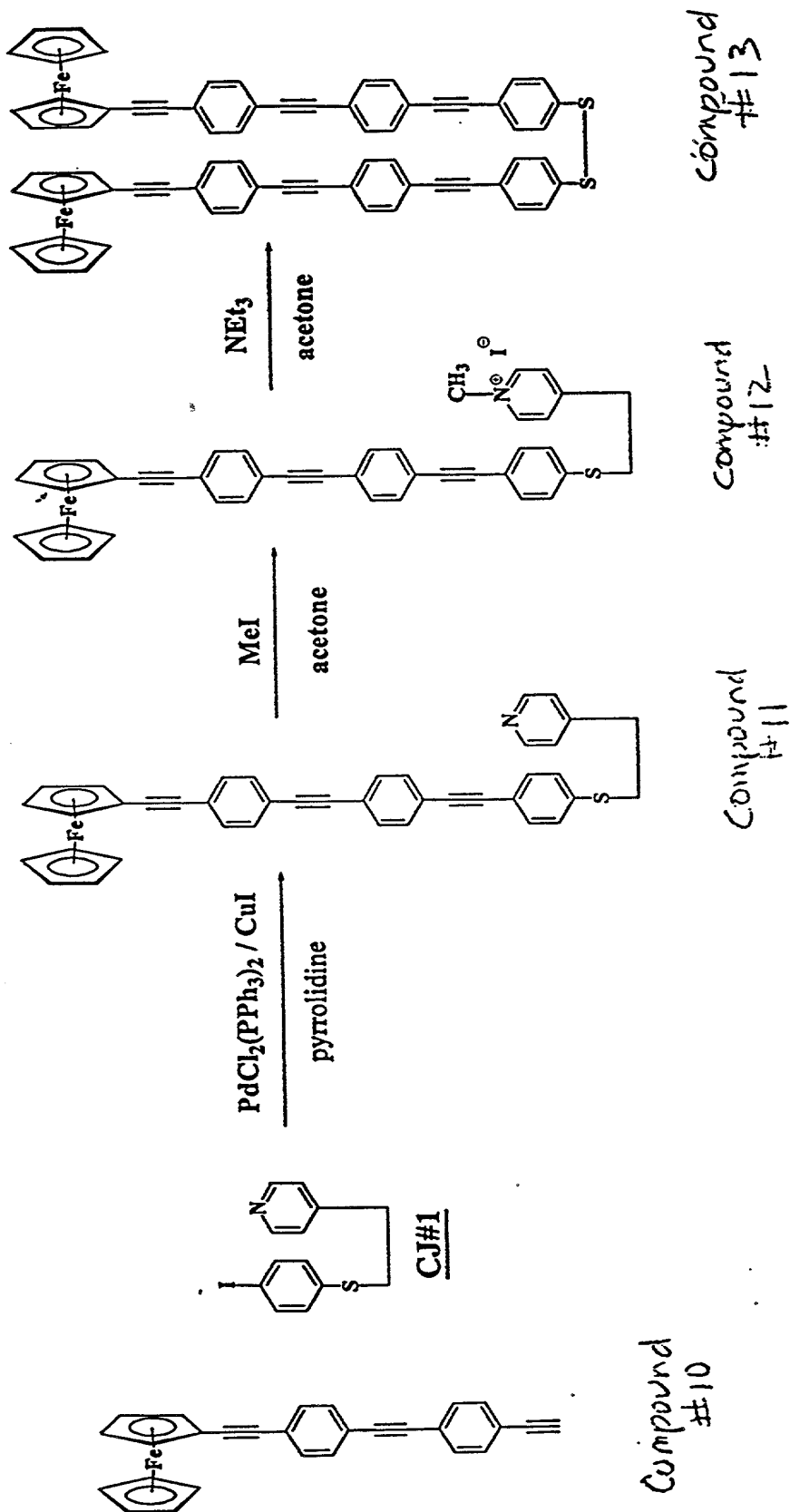


FIGURE 7

FIGURE 8

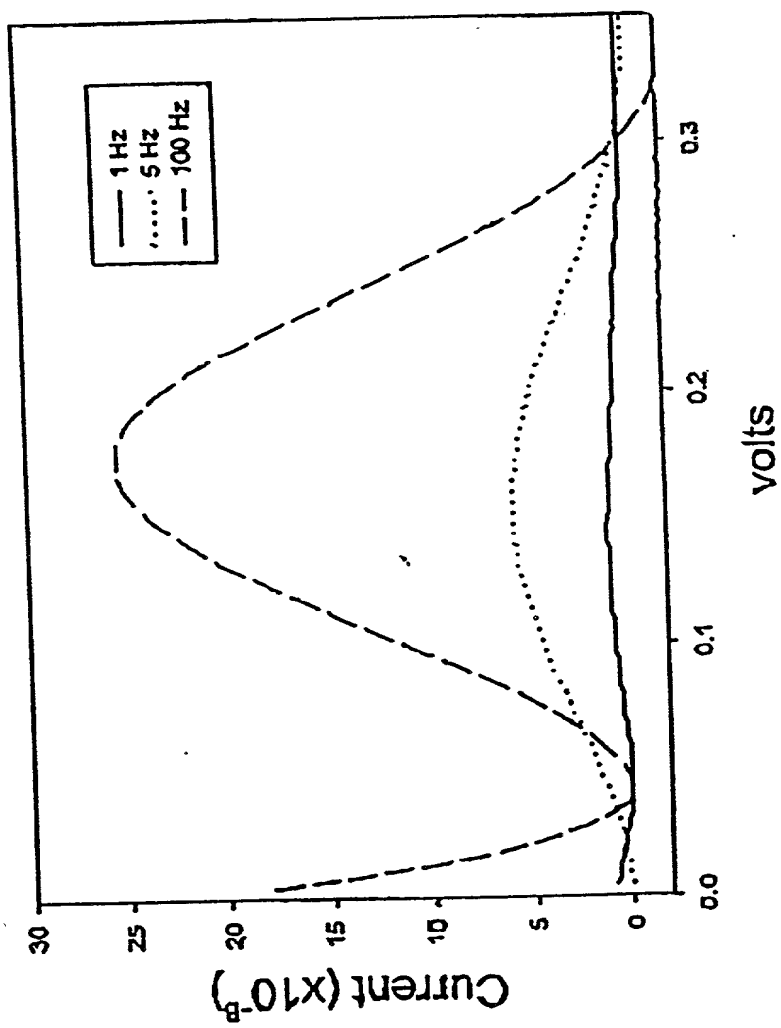
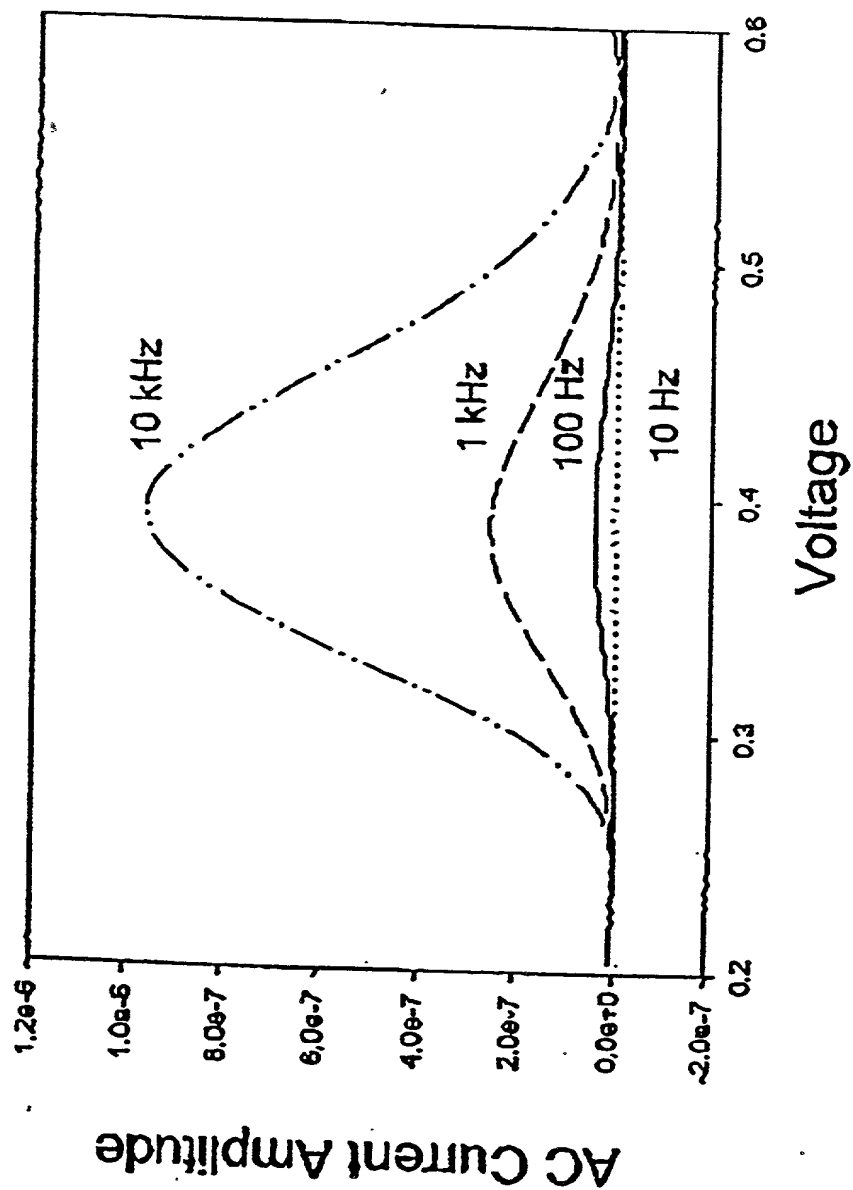


FIGURE 9A



Double and Single Stranded DNA

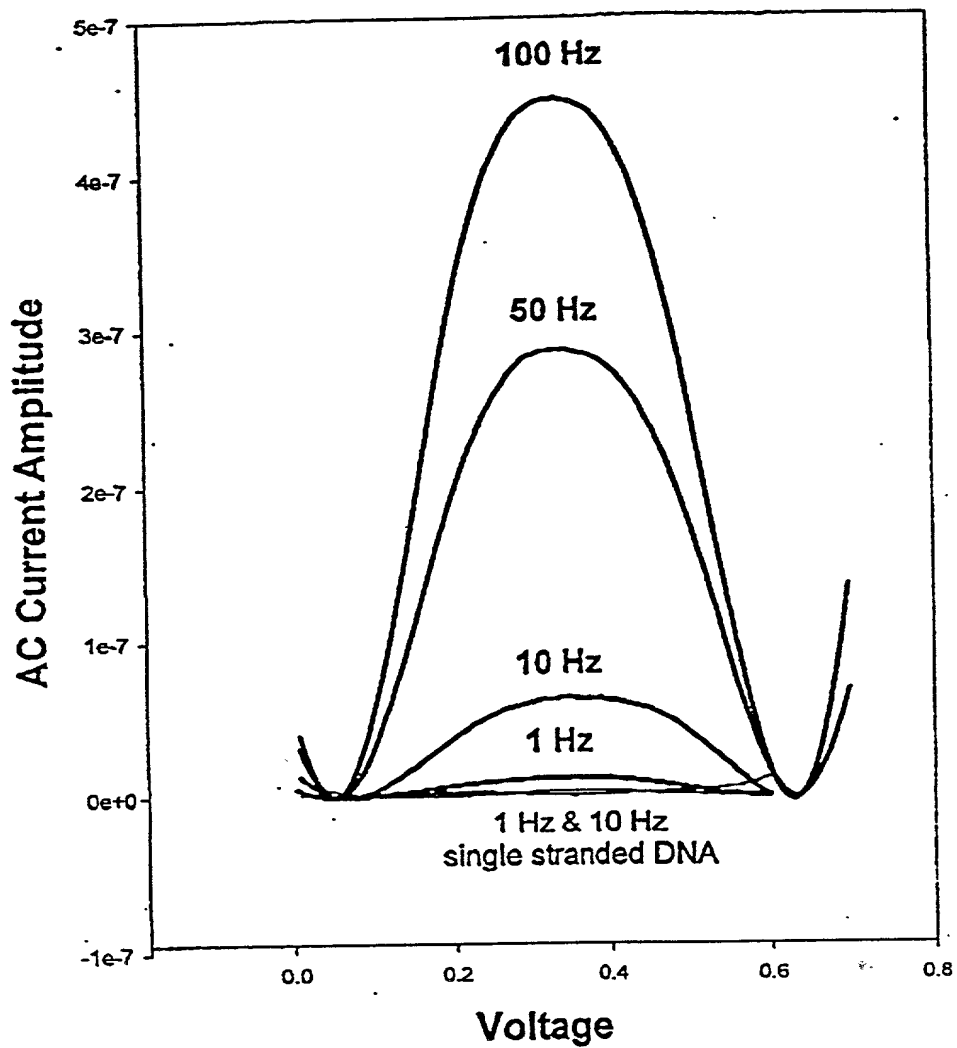


FIGURE 9B

DNA and RC circuits

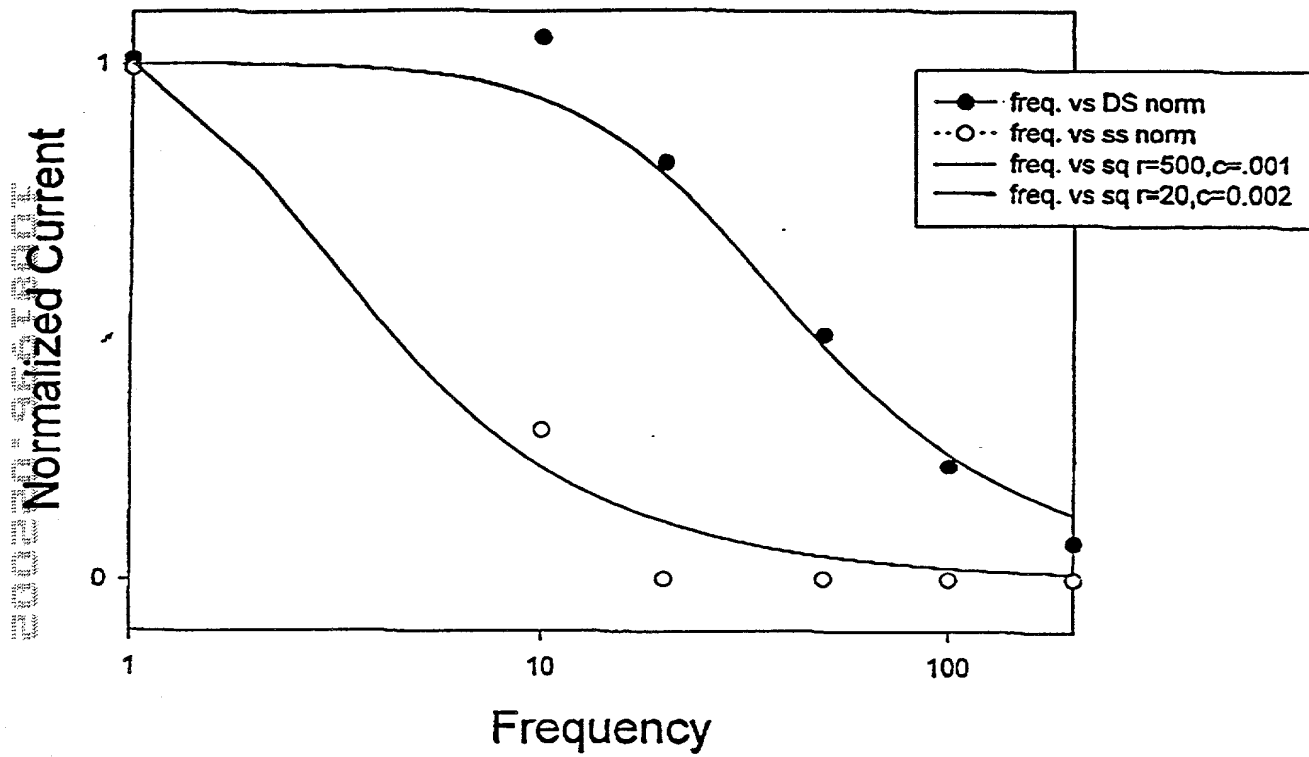


FIGURE 11

1 kHz ACV

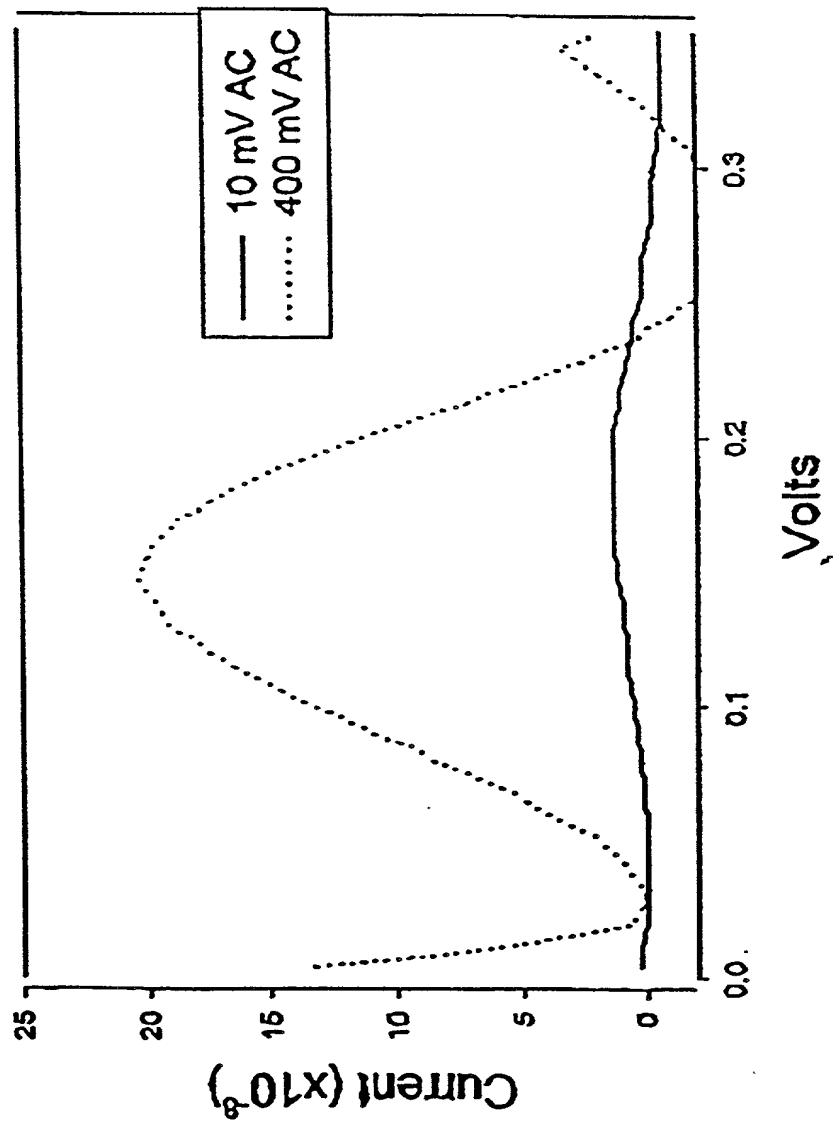


FIGURE 12

Fc alkane at 25 mV overpotential

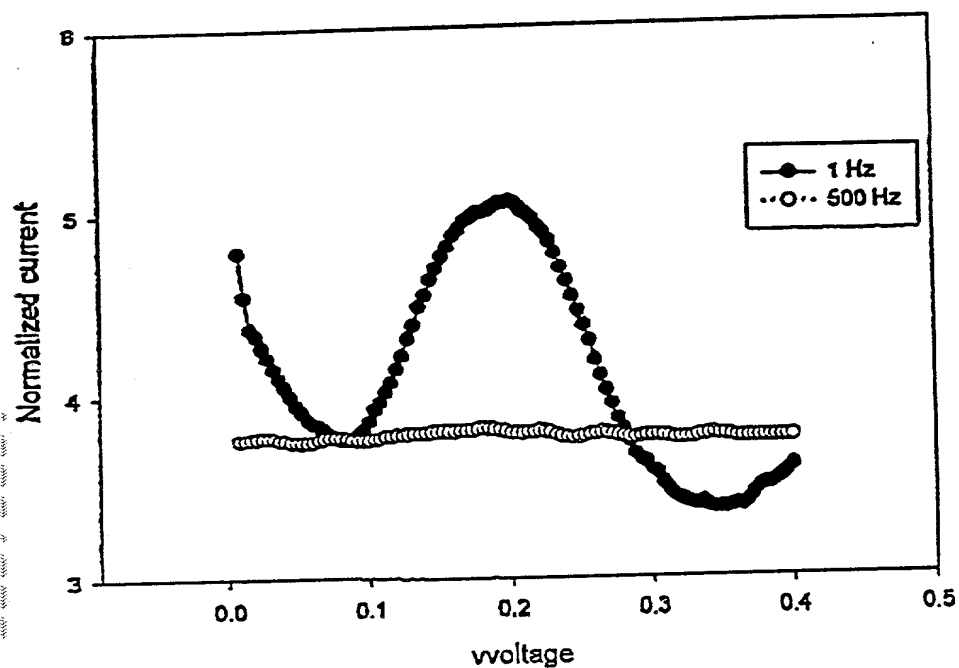


FIGURE 13A

Fc alkane, 1 Hz at 25 mV overpotential
500 Hz at 200 mV overpotential

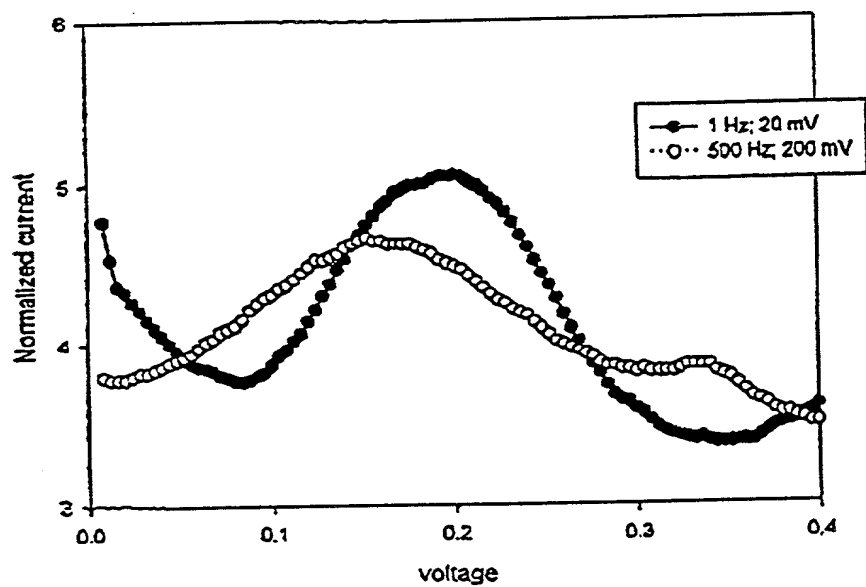


FIGURE 13B

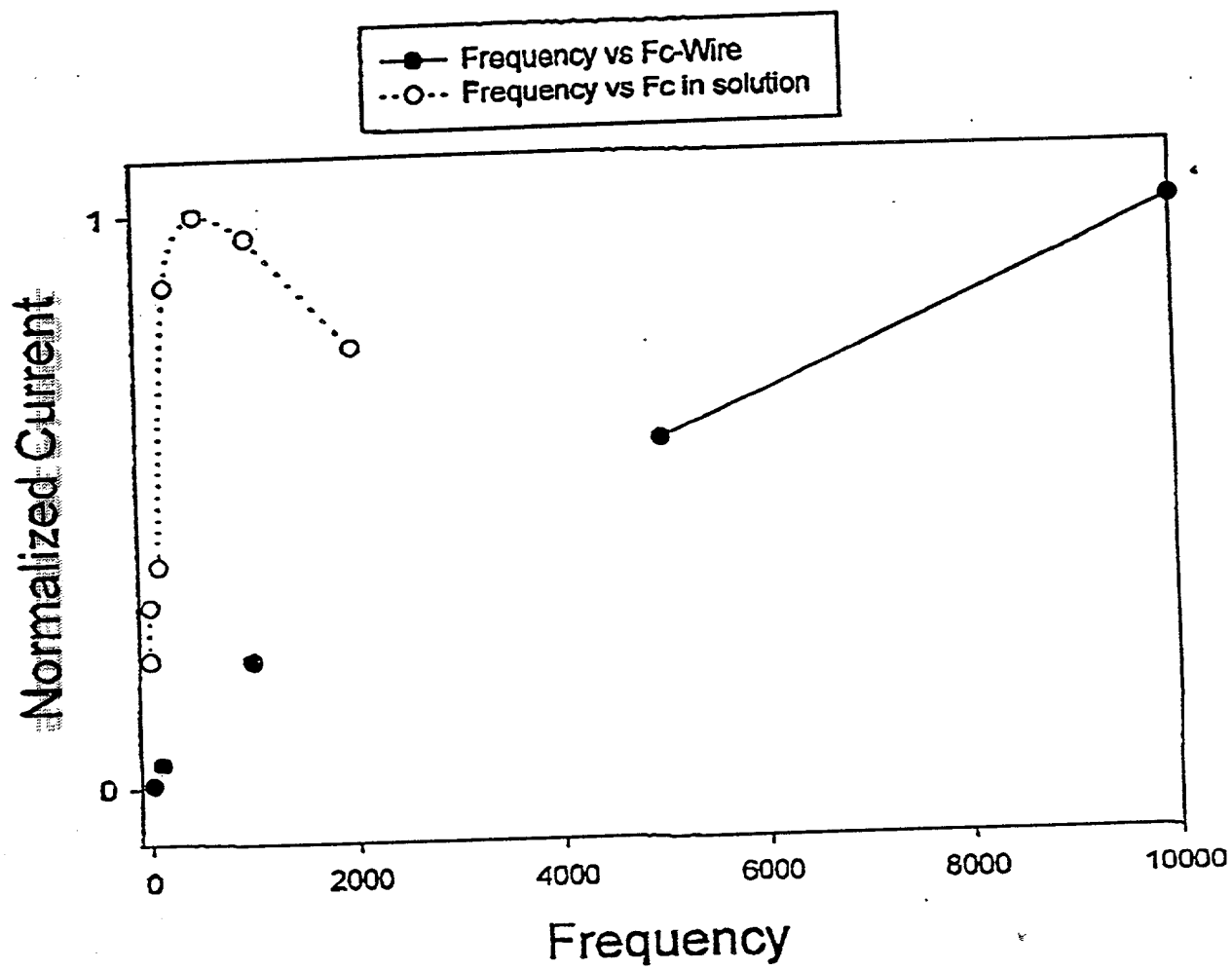
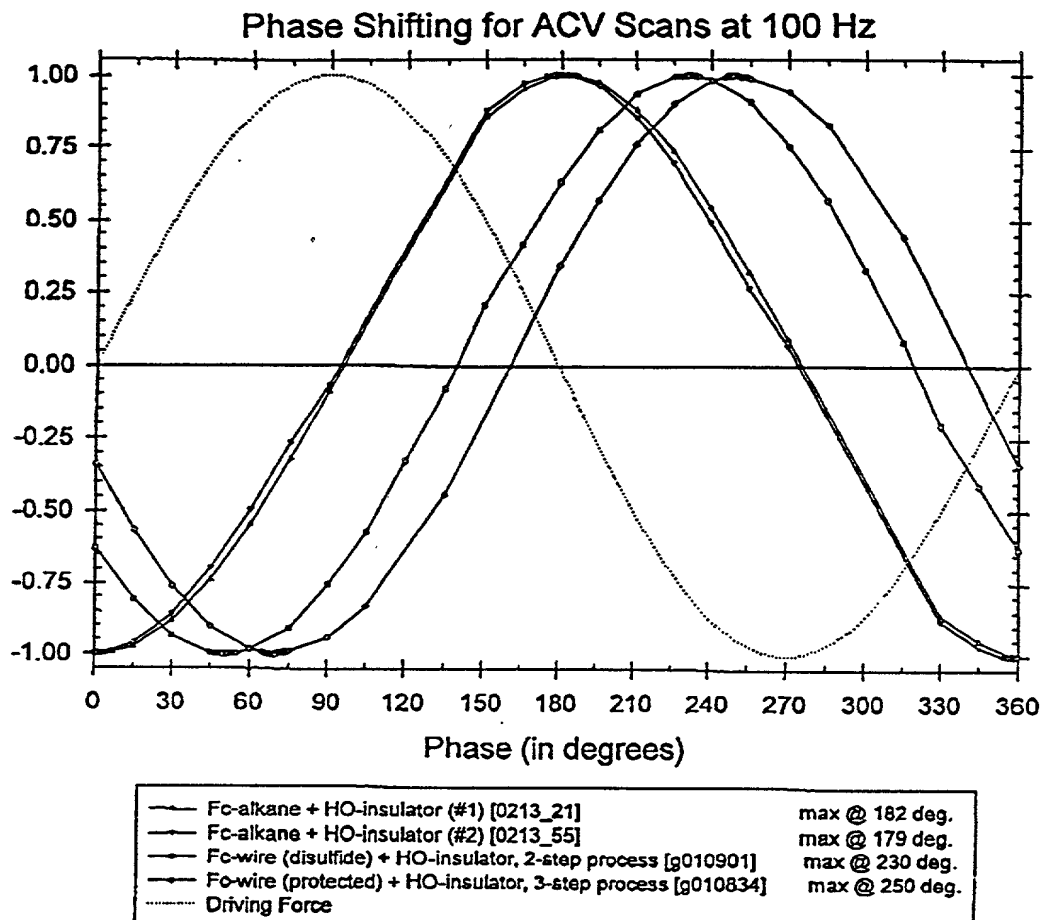


FIGURE 14

CONFIDENTIAL



Clinical Micro Sensors

Confidential

02/26/97

FIGURE 15A

ACV Phase Diagram at 50Hz
For 121803d (DS) and 021007a2 (SS)

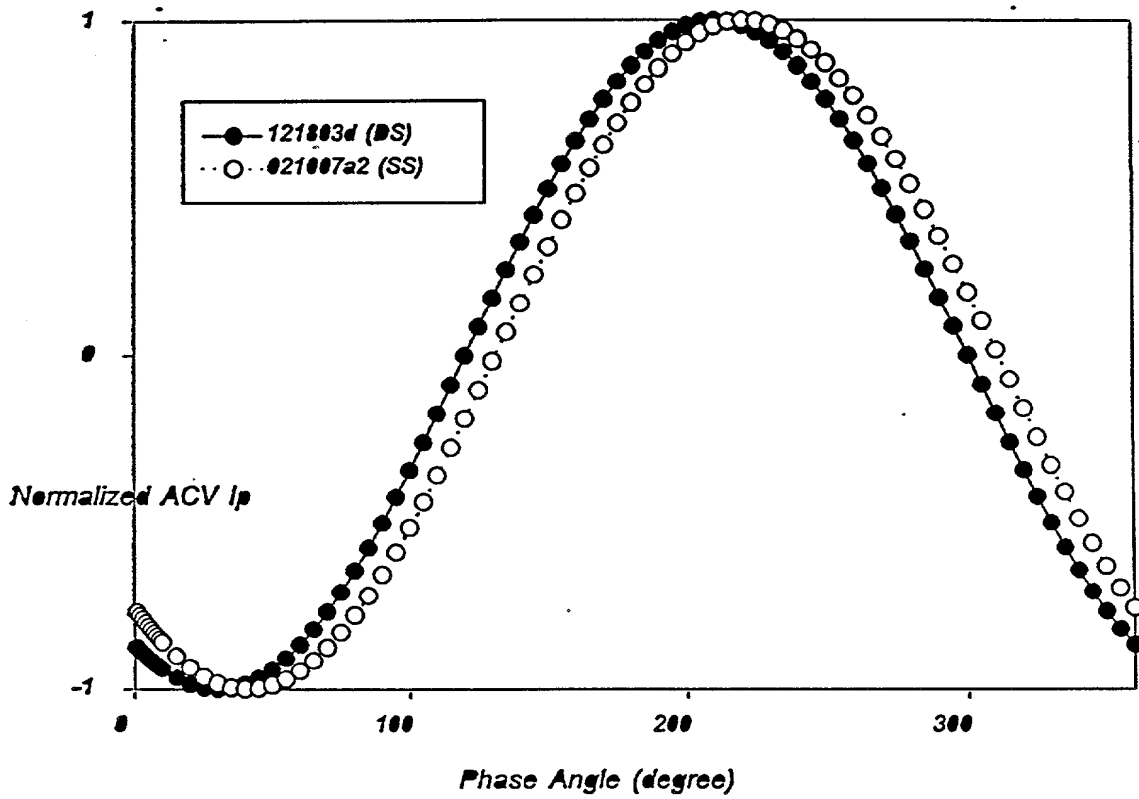


FIGURE 15B

Synthesis Scheme of the Benzylamino-Uridine

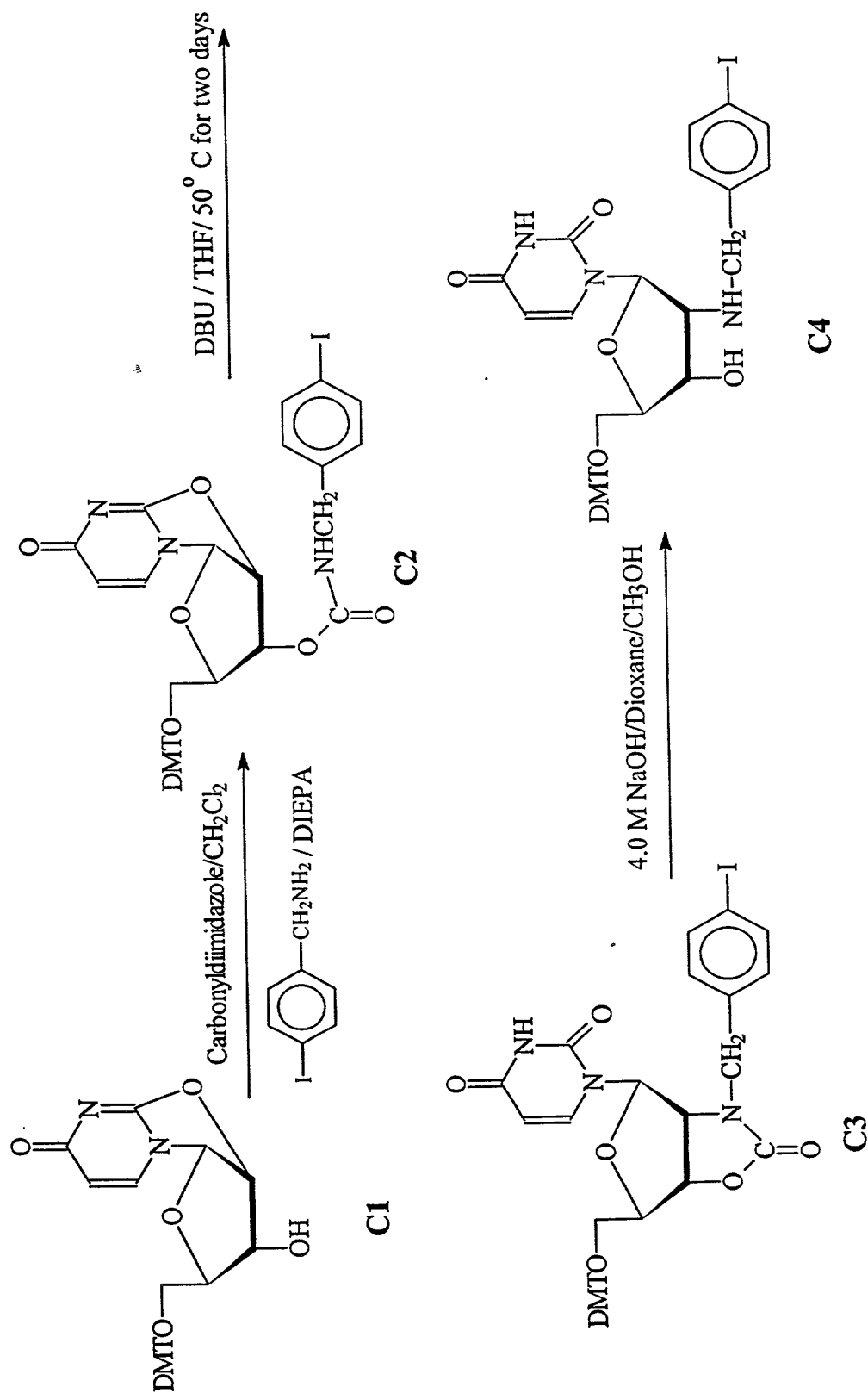


FIGURE 16

Fig 17A

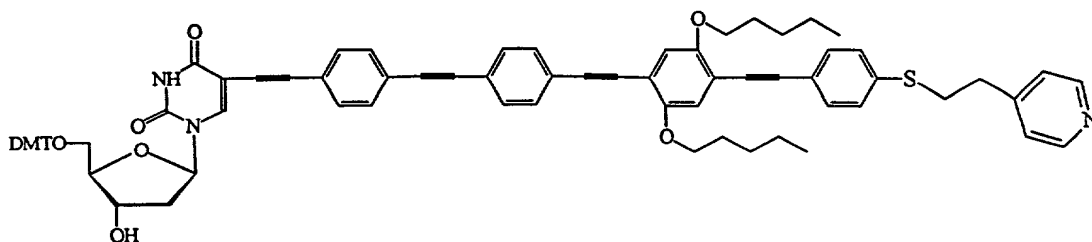


Fig 17B

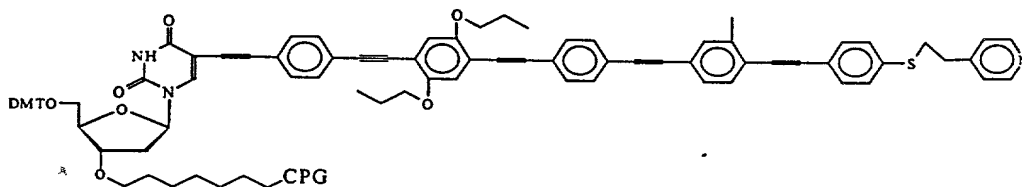


Fig 17C

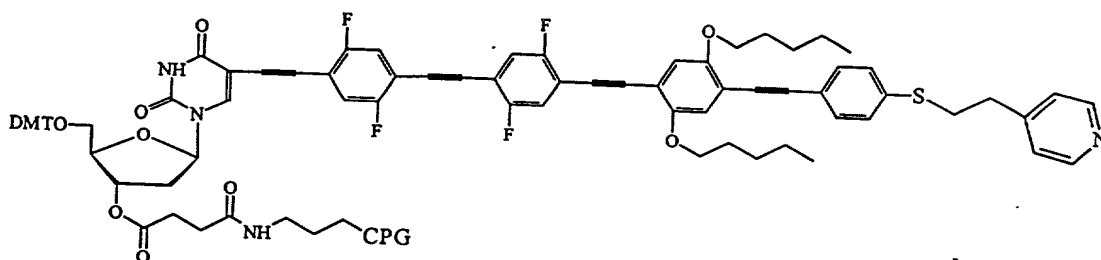
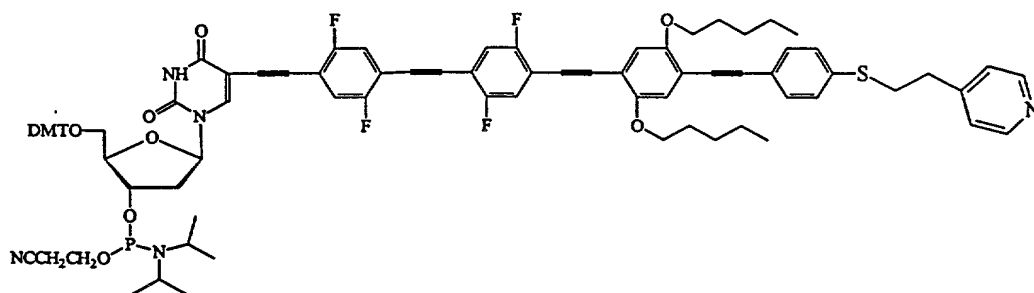
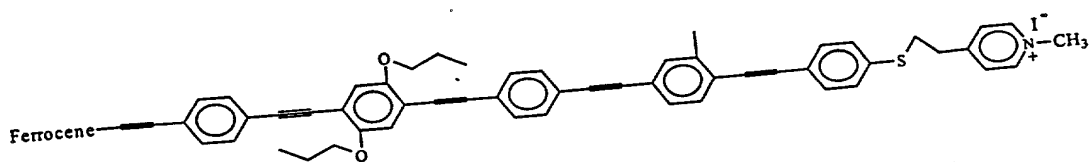
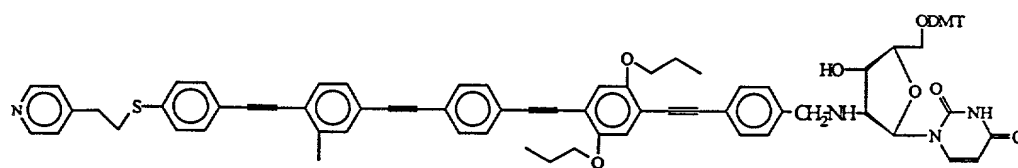
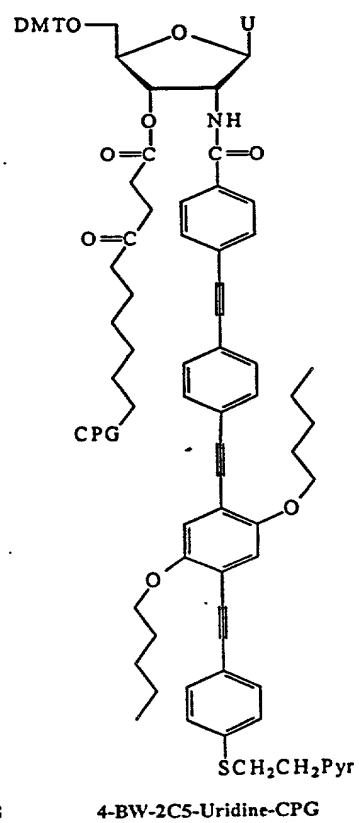
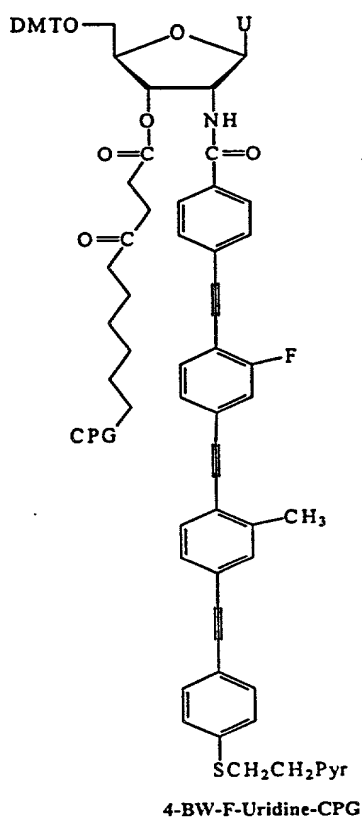


Fig 17D





Synthesis Scheme I of 4-Unit-Wire-uridine, CPG and Phosphorimide

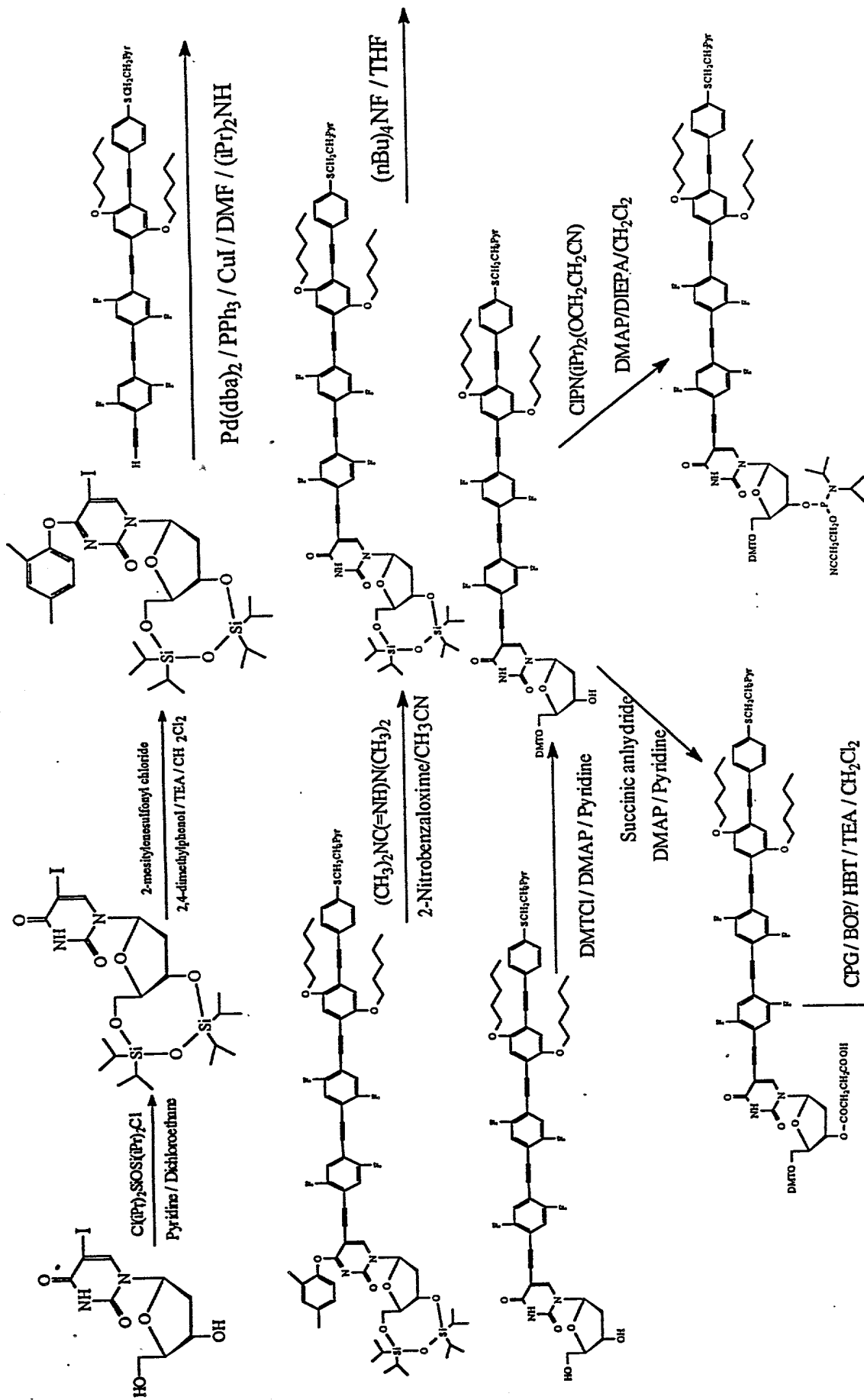
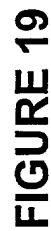


FIGURE 18

4-unit-uridine-base-attachment-CPG



4-unit-uridine-base-attachment-CPG

Second Generation of Sulfur Protection in the Base-Attached Wire-DNA Synthesis

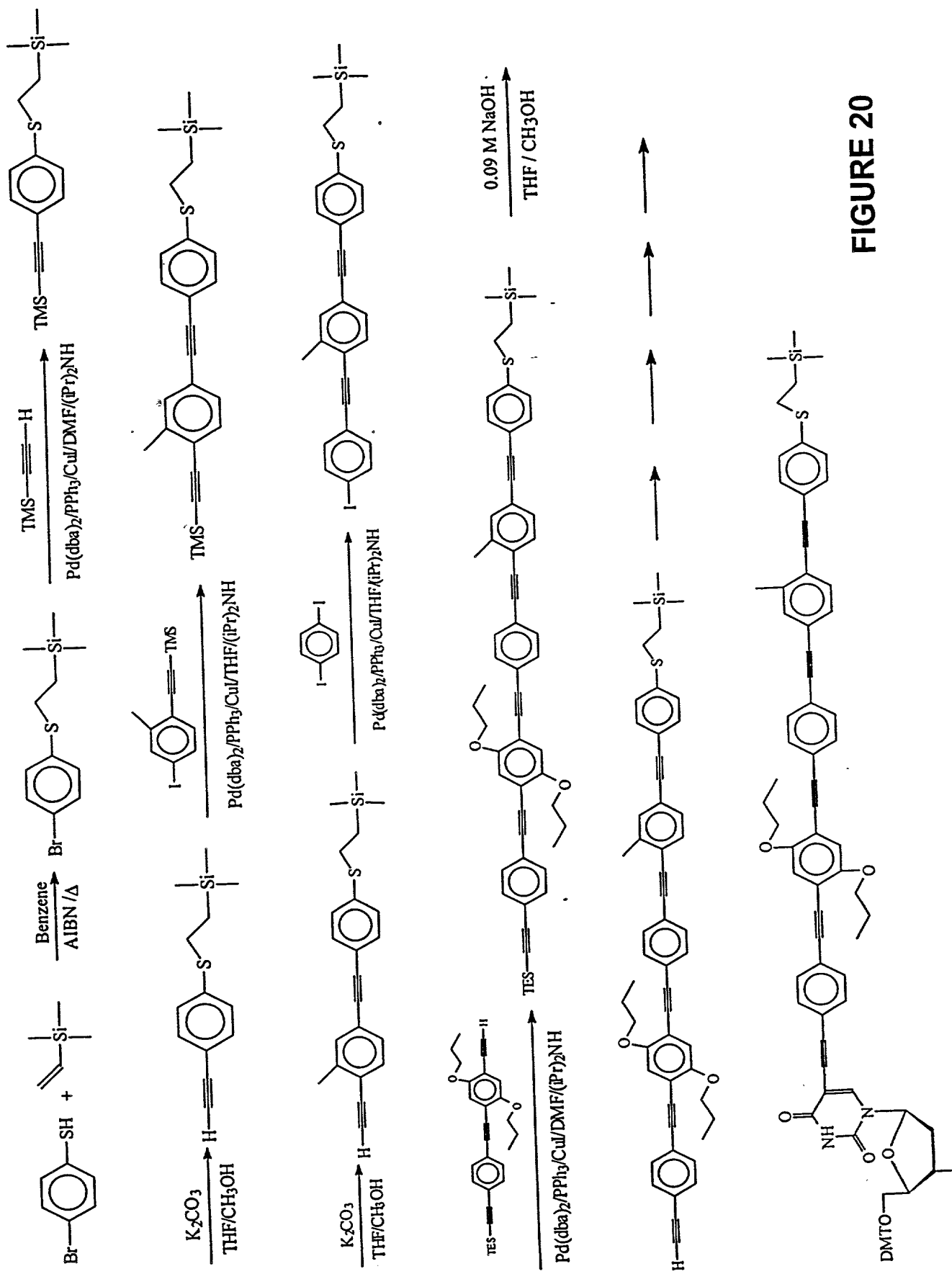


FIGURE 20

Second Generation of Sulfur Protection in the Sugar-Attached Wire-DNA Synthesis

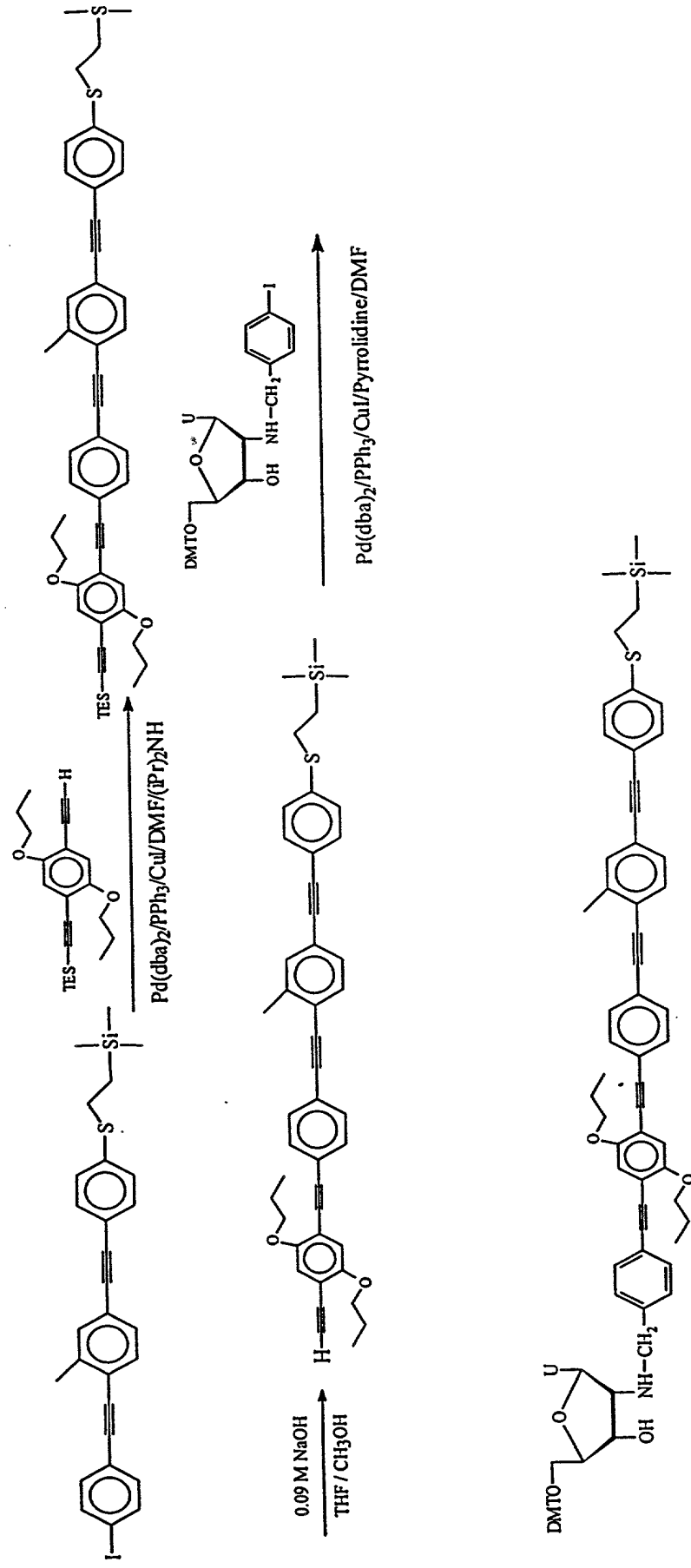


FIGURE 21

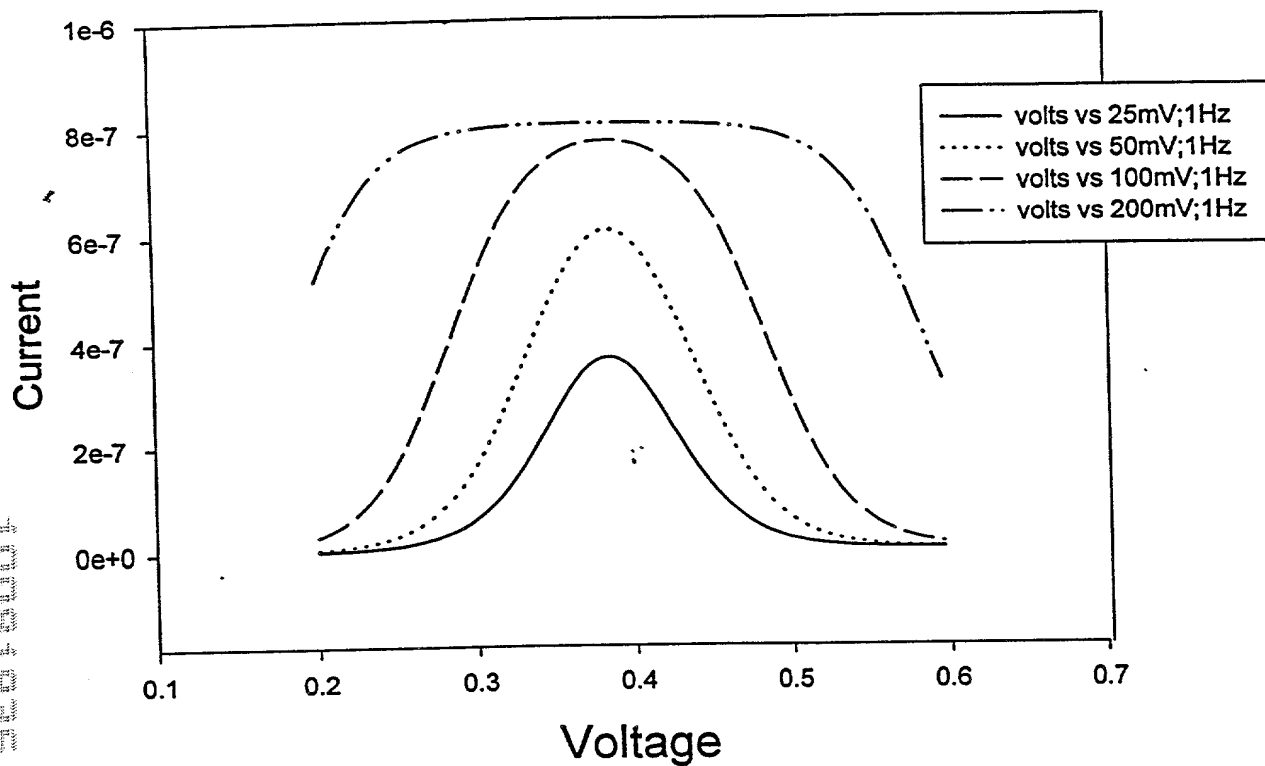


FIGURE 22A

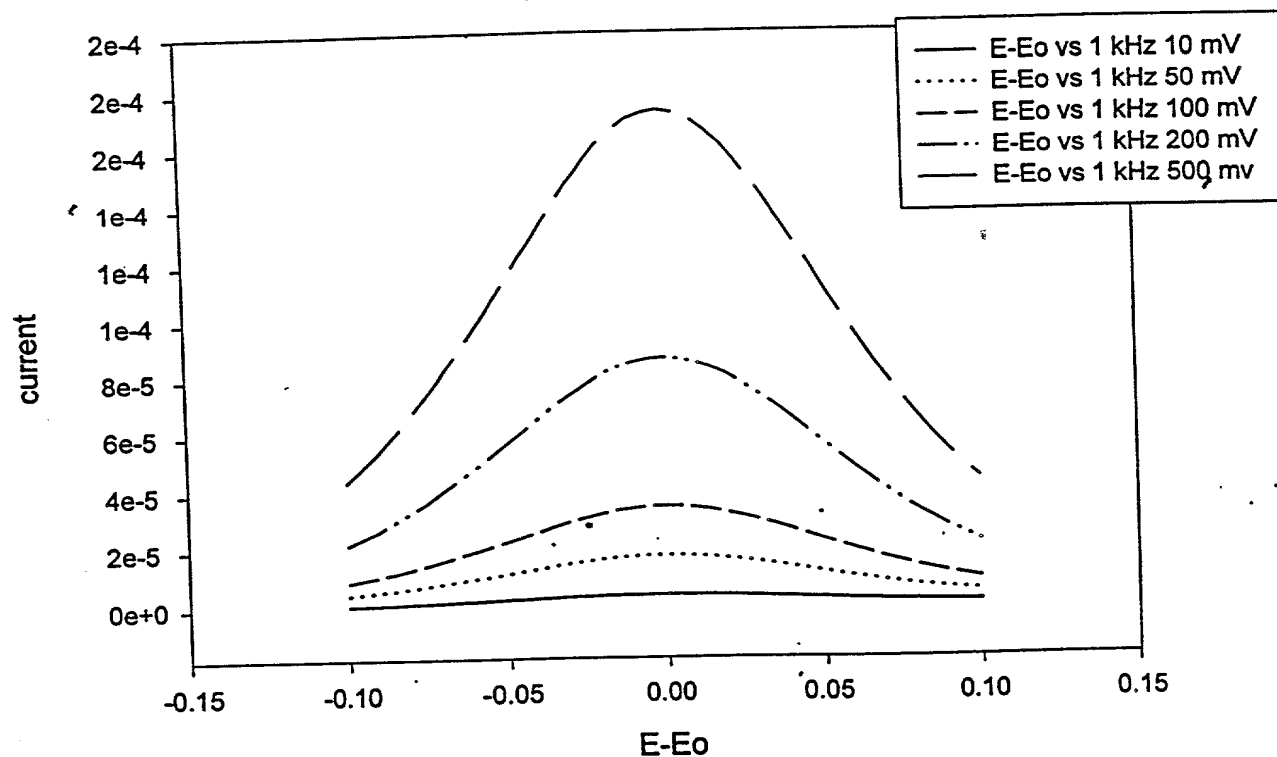


FIGURE 22B

Fc-Wire for 10 Hz

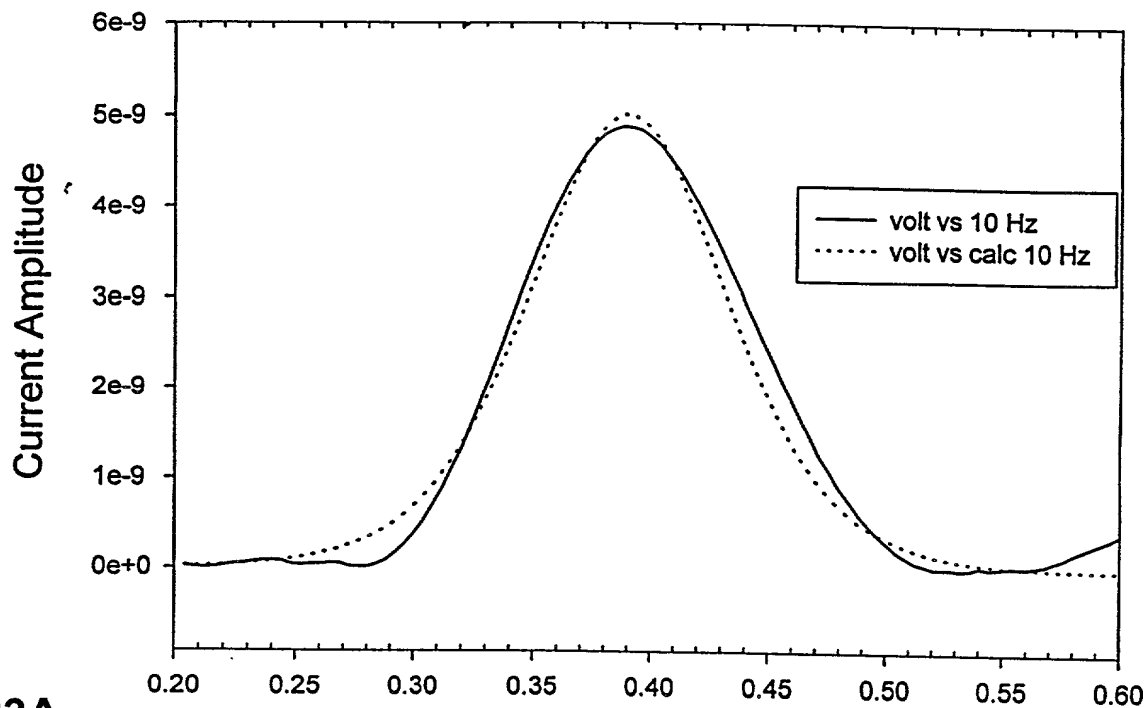


FIGURE 23A

Voltage centered around 0.38 V

Fc-Wire for 100 Hz

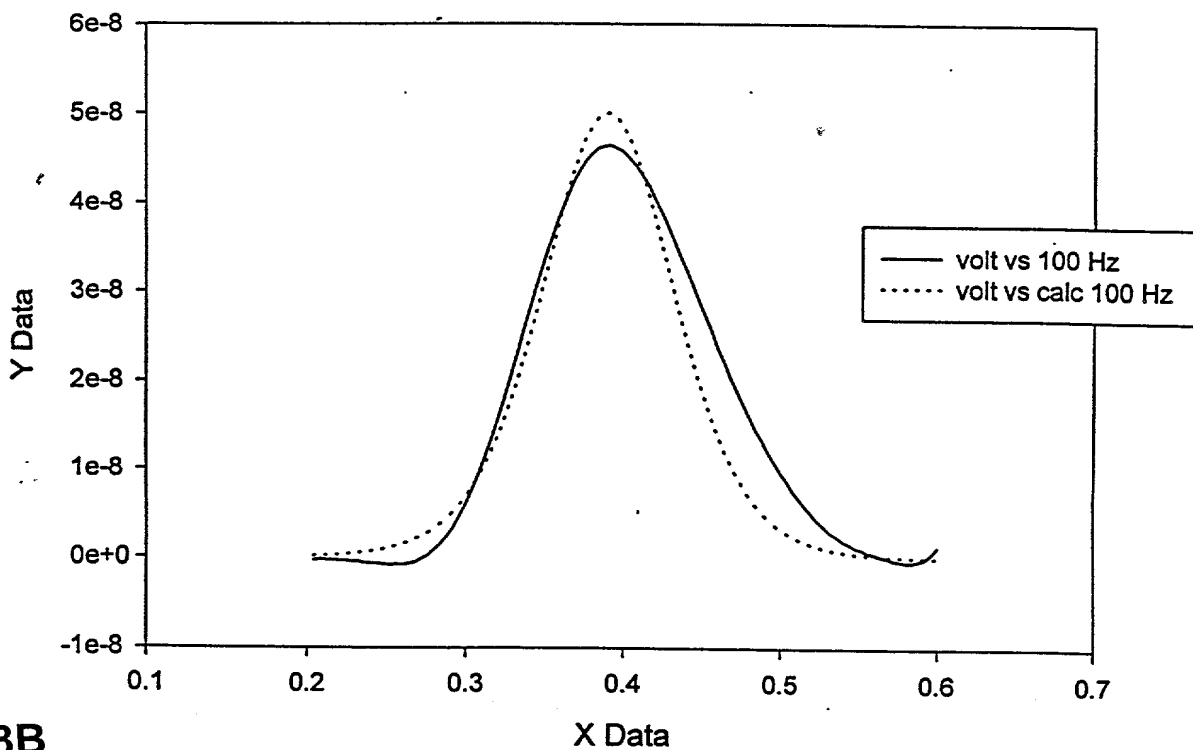


FIGURE 23B